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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,032	02/05/2001	Stephen A. Bagshaw	ATI010003	2306

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EXAMINER

HENEGHAN, MATTHEW E

ART UNIT	PAPER NUMBER
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2134

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/777,032

Applicant(s)

BAGSHAW, STEPHEN A.

Examiner

Matthew Heneghan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-13, 15-17, 19-27 and 29-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9, 11, 12, 16, 17, 20-27, 31 and 32 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 10, 13, 15, 19, 29, 30, and 32-34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. In response to the previous office action, claims 1, 3-5, 7, 9, 11, 12, 16, and 25 have been amended; claims 6, 14, 18, and 28 have been cancelled; and claims 33-35 have been added. Claims 1-5, 7-13, 15-17, 19-27, and 29-35 have been examined.

Drawings

2. The drawings were received on 21 March 2005. These drawings are acceptable.

Specification

3. All previous objections to the specification are withdrawn. It is noted that in Applicant's arguments (see Remarks, filed 21 March 2005, p. 13), Applicant has stated that the document "Upstream Link for HDCP Revision 0.95" is presented in an IDS; this document has not been found in the application file.

Claim Objections

4. All previous claim objections are withdrawn.

Claim Rejections - 35 USC § 112

5. In view of Applicant's amendments, all rejections under 35 U.S.C. 112 are withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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6. Claims 1, 2, 4, 9, 11, 12, 16, 20, 25, 26, and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,157,719 to Wasilewski et al.

As per claims 1, 2, 9, the digital cable (video) television system disclosed by Wasilewski, a set of any number of bit streams (such as 2 streams) are combined and each of several bit streams are individually encrypted at a the Program Encrypt function 201 (see column 6, lines 24-27 and figure 2A).

As per claim 4, the stream is recovered and demultiplexed, producing a single stream (see column 7, lines 6-24 and Fig. 2B).

Regarding claim 11, Wasilewski does not disclose any compression, so the throughput of the combined data stream is equal to twice that of each of the component streams.

As per claim 12, 16, 20, 25, and 31, the invention is implemented using set-top boxes, which inherently have I/O buffers for data transfers, and registers to hold the keys being used. Two decryptors are used to create the combined data stream in Fig. 2B.

Regarding claim 26, all modern computer systems use programmable counter/timers that are capable of clocking one stream at twice the speed of another.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,157,719 to Wasilewski et al. as applied to claim 1 and further in view of U.S. Patent No. 6,052,466 to Wright.

Wasilewski specifies but does not limit the invention to the use of symmetric key algorithms are encrypting the streams.

Wright discloses a system wherein a single data stream is divided into at least two cipher streams, each respectively using a generated key (see column 5, line 58 to column 6, line 45). Multiple cipher streams are created using the second cipher stream generator (see column 6, lines 3-21 and figure 3). Each device's keys are generated using the other device's public key, in conjunction with a random quantity (x), which has been then used to generate a series of private keys. The encryption key is taken from the set of private keys (see column 5, line 43 to column 6, line 21). Wright further notes that public key methods allow a sender and receiver to independently determine secret keys (see column 1, lines 44-51), and that this technique allows for re-synchronization following loss of a data packet (see column 4, lines 10-16).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Wasilewski by using public

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keys in the manner disclosed by Wright, as public key methods allow a sender and receiver to independently determine secret keys and this technique allows for re-synchronization following loss of a data packet.

8. Claims 5, 17, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,157,719 to Wasilewski et al. as applied to claims 4, 16, and 25 and further in view of U.S. Patent No. 4,332,464 to Bartulis et al.

Wasikewski does not disclose the details of signaling.

Bartulis discloses the use of a Display Enable signal for video transmissions, and further suggests that this is used to inform the video system that the CRT is ready to accept video (see column 12, lines 7-10). Bartulis also discloses vertical and horizontal sync signals and a strobe (clocking signal), noting that they are typical of any CRT (see column 10, lines 40-45).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Wasilewski by using a Display Enable signal, as disclosed by Bartulis, in order to inform the video system that the CRT is ready to accept video, and also vertical and horizontal sync signals and a strobe, as disclosed by Bartulis, as they are typical of any CRT.

9. Claims 21 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,157,719 to Wasilewski et al. as applied to

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claims 20 and 31 above, and further in view of U.S. Patent No. 6,507,346 to Otera.

Wasikewski does not specifically mention the use of DVO ports.

Otera discloses the use of DVO ports in a system having odd and even sections and notes that this is for providing output to the displays (see column lines 30-35 and abstract).

Therefore it would have obvious to one of ordinary skill in the art at the time the invention was made to implement the invention of Wasilewski with a DVO port, as disclosed by Otera, for providing output to the displays.

10. Claim 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,157,719 to Wasilewski et al. in view of U.S. Patent No. 6,507,346 to Otera as applied to claim 21 above, and further in view of Digital Display Working Group, DVI Specification 1.0, 1999 (hereinafter "DDWG").

Wasikewski and Otera do not specifically mention the use of TMDS.

DDWG discloses the usage of the TMDS protocol, and further note that it allows bandwidth to be evenly divided between two links (see section 2.1).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the invention of Wasikewski and Otera using TMDS, as disclosed by DDWG, as it allows bandwidth to be evenly divided between two links.

Allowable Subject Matter

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11. Claims 7, 8, 10, 13, 15, 19, 29, 30, and 33-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 7, 8, 19, 29, no art could be found that re-keyed digital streams according to a horizontal sync signal.

Regarding claims 10, 15, 30, and 33-35, no art could be found that separately encrypted odd and even pixel streams in a digital transmission.

Regarding claim 13, no art could be found that specifically used a clock having a speed of $1/n$ for n channels in a system that corresponds to the claimed invention.

Response to Arguments

Applicant's arguments, see Remarks, filed 21 March 2005, with respect to the rejection of the claims under 35 U.S.C. 102 and 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new grounds of rejection are made in view of the art cited above.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Heneghan, whose telephone number is (571) 272-3834. The examiner can normally be reached on Monday-Friday from 8:30 AM - 4:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse, can be reached at (571) 272-3838.

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Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

P.O. Box 1450

Alexandria, VA 22313-1450

Or faxed to:

(703) 872-9306

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MEH



June 7, 2005

David Y. Jung
Primary Examiner

David Y. Jung
Primary Examiner

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